LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 5 | Technical Appendices

CFA10 | Dunsmore, Wendover and Halton

Baseline (SV-002-010)

Sound, noise and vibration

November 2013

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Department for Transport

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1 Introduction

1.1 Structure of the sound, noise and vibration appendices

1.1.1 The sound, noise and vibration appendices comprise four sections. The first of these is an introduction to the relevant policy and methodology (Volume 5: Appendix SV-001-000). This relates to the sound, noise and vibration assessment for all community forum areas (CFA).

1.1.2 For the Dunsmore, Wendover and Halton area, the other three sections are as follows:

- baseline sound, noise and vibration (Volume 5: Appendix SV-002-010) (this appendix);
- construction sound, noise and vibration (Volume 5: Appendix SV-003-010); and
- operational sound, noise and vibration (Volume 5: Appendix SV-004-010).

1.1.3 Maps referred to within this appendix are contained in the Volume 5, Sound, Noise and Vibration Map Book.

1.1.4 This appendix includes details of the existing and future baseline sound environment within the area. It provides details of measurements and any other data collection which has been undertaken in order to obtain existing and future baseline sound levels.

1.2 Existing acoustic environment

1.2.1 The existing baseline sound environment for this area is moderately varied, reflecting the context of a mixture of small towns, villages, hamlets and isolated properties in a largely rural setting.

1.2.2 The largest settlement in the area is Wendover. Transport infrastructure through Wendover includes road links and the Marylebone to Aylesbury Line. The main roads connecting Wendover to neighbouring towns include the A413 Nash Lee Road, the B4009 Aylesbury Road/Tring Road, and Ellesborough Road. Traffic on these main roads forms the dominant sound source for much of Wendover. Daytime sound levels in locations close to busy roads are typically approximately 55 to 60dB[1]. In addition to the road traffic, other sound sources in the area include trains on the Marylebone to Aylesbury Line and intermittent over-flying aircraft. Away from busy roads, the sound environment is still generally dominated by road traffic, but daytime sound levels are typically around approximately 50dB.

1.2.3 Sound levels are lower at night as traffic flows reduce, with typically approximately 50 to 55dB[2] in locations close to busier roads and around approximately 45dB away from these roads.

1.2.4 In some of the outlying areas of Wendover, whilst road traffic on the main roads remains the dominant sound source, this is perceived as being 'distant' and natural

[1] Quoted dB values at residential areas refer to the free-field 16 hour daytime (07:00 to 23:00) equivalent continuous sound pressure level, $L_{pAeq,16hr}$.
[2] Night-time sound levels refer to the free-field 8 hour night-time (23:00 to 07:00) equivalent continuous sound pressure level, $L_{pAeq,8hr}$.

and agricultural sounds are more prevalent. Daytime sound levels in these areas are typically approximately 45 to 50dB, dropping to around approximately 40dB overnight.

1.2.5 In the rural areas further away, from Wendover, the acoustic character generally includes the sound of distant road traffic and, in some locations, agricultural activities and natural sounds. Sound levels can vary considerably, dependent on the proximity of local roads, but daytime levels are typically approximately 45 to 50dB and night-time around approximately 40dB. Royal Air Force (RAF) Halton lies to the north-east of Wendover and military helicopters are occasionally heard.

2 Scope, assumptions and limitations

2.1 Sound and vibration sensitive receptors

2.1.1 Within the Dunsmore, Wendover and Halton area, 161 assessment locations have been defined to represent all identified sound and vibration sensitive receptors within the spatial scope. The assessment locations are shown on the detailed maps in Map Series SV-03 and SV-04 (Volume 5, Sound, Noise and Vibration Map Book). Within this area, the following types of sound and vibration sensitive receptors have been identified:

- residential areas;
- education facilities;
- community centres and meeting facilities;
- places of worship; and
- healthcare facilities.

2.2 Local engagement

2.2.1 Discussions have been held with representatives of Aylesbury Vale and Chiltern District Councils regarding the approach which has been taken to baseline monitoring within this area, the identification of noise and vibration sensitive receptors, the selection of assessment location and baseline sound levels at these assessment locations.

2.2.2 Changes suggested during these meetings have influenced the assessment locations used and the monitoring undertaken and reported in this document.

2.2.3 Representatives of Aylesbury Vale and Chiltern District Councils have also attended baseline sound measurements in this area and witnessed the measurement procedures used.

2.2.4 Local engagement through community forum meetings has also provided the opportunity for local groups to suggest appropriate baseline sound monitoring locations. Any suggestions received from these groups have been considered and have influenced the monitoring undertaken and reported in this document.

2.3 Existing baseline sound monitoring locations

2.3.1 Whilst the aim was to provide a comprehensive survey of noise sensitive locations, there were limitations placed on the exercise by the availability of access to suitable locations, and weather conditions during the available periods.

2.3.2 An on-going review process has been carried out to minimise potential gaps in the data, with later phases of the baseline survey seeking to fill gaps identified for earlier phases.

2.3.3 Maps showing the baseline sound monitoring locations and assessment locations within this area are included in Map Series SV-03 and SV-04 (Volume 5, Sound, Noise and Vibration Map Book).

3 Environmental baseline

3.1 Existing baseline data collection methodology

3.1.1 The overall approach to baseline data collection for sound noise and vibration is described in Volume 5: Appendix SV-001-000.

3.1.2 Over the Dunsmore, Wendover and Halton area, a large number of baseline sound measurements have been undertaken. These have been classified as follows:

- long-term measurements – unattended measurements of several days duration;
- medium-term measurements – attended measurements of several hours duration (generally repeated at different times of day); and
- short-term measurements – attended measurements typically of 30 minutes duration (generally repeated at different times of day).

3.1.3 In this CFA a total of 49 baseline sound level measurements have been undertaken.

3.1.4 In Hunt's Green, a single long-term measurement was undertaken to provide baseline sound levels for properties in this rural setting.

3.1.5 A single short-term measurement was undertaken adjacent to the A413 (London Road) south of Wendover Dean to provide a representative measurement of the sound climate in this area.

3.1.6 In Wendover Dean, a long-term measurement was undertaken at a residential property to provide a representative measurement of the sound climate in this area. This was supplemented by a short-term measurement, undertaken at the same location.

3.1.7 A short-term measurement was undertaken in Kingsash to provide a representative measurement of the sound climate in this area.

3.1.8 On Rocky Lane, west of Kingsash, four long-term measurements were carried out at three residential properties, where baseline noise levels are representative of those in the locality that will come into close proximity to the Proposed Scheme.

3.1.9 On the A413 (London Road), a long-term measurement was undertaken at a residential property where baseline sound levels are representative of those at surrounding properties. The measurement location is a noise-sensitive property and will come into close proximity with the Proposed Scheme. This was supplemented by a short-term measurement taken at the same location.

3.1.10 South of Wendover, a short-term measurement was undertaken at a residential property to provide a representative measurement of the sound climate in this locality.

3.1.11 On the southern outskirts of Wendover, five long-term measurements were undertaken at residential locations where baseline sound levels were representative of those at surrounding properties. These were supplemented by three short-term measurements at various locations in this area.

3.1.12 Towards the southwest of Wendover, along Ellesborough Road, three long-term measurements were undertaken at three residential locations. These were supplemented

by five short-term measurements taken in the same area, to assist with baseline sound levels were representative of those at surrounding properties and nearby sensitive receptors.

3.1.13 Towards the western area of Wendover, five long-term measurements were undertaken at residential properties to provide baseline sound levels for this area. These were supplemented by three short-term measurements undertaken at various locations in Wendover.

3.1.14 To the west of Wendover and the A413, a single long-term measurement was undertaken at an isolated residential property in a rural location.

3.1.15 Towards the northwest of Wendover, six long-term measurements were undertaken residential properties in and around the area of Nash Lee Road, where baseline sound levels were representative of those at surrounding properties.

3.1.16 In World's End, a single short-term measurement was completed in a residential property towards the end of Nash Lee Road.

3.1.17 A single long-term measurement was undertaken at a residential property towards the western end of North Lee Lane to provide a representative baseline of sound levels for surrounding properties.

3.2 Existing baseline sound levels

3.2.1 From the measurements described in Section 3.1, baseline sound levels have been ascertained for each assessment location within this area. These levels are presented in terms of the following key sound indicators:

- For the operational sound assessment
  - $L_{pAeq,16hr\ weekday}$ daytime (07:00-23:00) sound pressure level;
  - $L_{pAeq,8hr\ weekday}$ night-time (23:00-07:00) sound pressure level;
  - arithmetic average of $L_{pAFmax,5min}$ night-time sound pressure level; and
  - highest $L_{pAFmax,5min}$ night-time sound pressure level.
- For the construction sound assessment
  - daytime L_{pAeq} sound pressure level (Monday to Friday 07:00-19:00; Saturday 07:00-13:00);
  - evening/weekend L_{pAeq} sound pressure level (Monday to Friday 19:00-23:00; Saturday 13:00- 23:00; Sunday 07:00 to 23:00); and
  - night-time L_{pAeq} sound pressure level (Monday to Sunday 23:00-07:00).

3.2.2 These values are presented in Table 1. The data source coding included within this table details how the baseline sound levels allocated to each assessment location have been derived. This coding is summarised in Table 2 and explained in detail in Volume 5: Appendix SV-001-000.

Table 1: Existing baseline sound levels

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average of night-time $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime L_{pAeq}	Evening/ weekend L_{pAeq}	Night-time L_{pAeq}	
312373	North Lee Lane, Terrick	CS1210	49.0	47.7	50.8	73.1	49.8	44.6	47.7	1,A,ii,b
312509	Nash Lee Road, Terrick	CS0087	55.7	45.3	53.3	68.4	56.4	51.6	45.3	1,A,ii,b
313082	North Lee Lane, Terrick	CS1210	49.0	47.7	50.8	73.1	49.8	44.6	47.7	1,A,ii,b
313100	North Lee Lane, Terrick	CS1210	49.0	47.7	50.8	73.1	49.8	44.6	47.7	1,A,i,a
313140	North Lee Lane, Terrick	CS1210	45.9	39.2	50.8	73.1	45.9	39.2	39.2	1,D,ii,b
313291	North Lee Lane, Terrick	CS1210	49.0	47.7	50.8	73.1	49.8	44.6	47.7	1,A,ii,b
313337	Risborough Road, Stoke Mandeville	CS5122	53.5	44.9	52.7	66.8	53.4	49.0	43.8	1,A,iii,b
314444	Nash Lee Road, Terrick	CS0087	55.7	45.3	53.3	68.4	56.4	51.6	45.3	1,A,ii,b
314625	Unnamed Road, Ellesborough	CS0087	55.7	45.3	53.3	68.4	56.4	51.6	45.3	1,A,ii,b
314652	Nash Lee Road, Terrick	CS0087	55.7	45.3	53.3	68.4	56.4	51.6	45.3	1,A,ii,b
314668	Nash Lee Road, Terrick	CS0087	55.7	45.3	53.3	68.4	56.4	51.6	45.3	1,A,i,a
314704	Nash Lee Road, Terrick	CS0087	55.7	45.3	53.3	68.4	56.4	51.6	45.3	1,A,ii,b
314738	Nash Lee Road, Terrick	CS4101	55.1	46.5	54.5	63.8	55.2	53.8	47.0	1,A,i,a
314865	Wendover Road, Stoke Mandeville	CS2064	53.5	47.3	51.8	80.2	54.0	51.4	45.7	1,A,ii,b
350579	London Road, Wendover	CS8055	57.4	51.7	89.7	95.0	57.9	56.1	51.3	4,C,ii,b
350695	Cobblers Hill, Wendover	CS2013	50.8	44.8	54.9	74.8	50.8	51.4	45.0	3,A,iii,b

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average of night-time $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime L_{pAeq}	Evening/ weekend L_{pAeq}	Night-time L_{pAeq}	
350753	London Road, Wendover	CS2012	65.9	60.4	82.6	88.0	65.6	65.9	60.8	3,C,ii,b
350796	London Road, Wendover	CS3046	52.4	48.6	56.9	76.8	53.0	52.5	48.6	1,A,iii,b
350868	London Road, Wendover	CS2012	74.4	68.9	82.6	88.0	74.1	74.4	69.3	3,A,ii,b
350945	Wendover Dean, Aylesbury	CS2012	63.3	57.8	82.6	88.0	63.0	63.3	58.2	3,C,ii,b
351596	Aylesbury Road, Great Missenden	CS8055	62.7	57.0	89.7	95.0	63.2	61.4	56.6	4,C,iii,b
351644	Aylesbury Road, Great Missenden	CS8055	68.7	63.0	89.7	95.0	69.2	67.4	62.6	4,B,ii,b
351671	London Road, Wendover	CS8055	65.7	60.0	89.7	95.0	66.2	64.4	59.6	4,C,ii,b
351696	Bowood Lane, Wendover	CS2013	50.8	44.8	54.9	74.8	50.8	51.4	45.0	3,A,ii,b
351710	Wendover Dean, Aylesbury	CS2013	50.8	44.8	54.9	74.8	50.8	51.4	45.0	3,A,ii,b
351740	Wendover Dean, Aylesbury	CS2013	50.8	44.8	54.9	74.8	50.8	51.4	45.0	3,A,ii,b
351792	Bowood Lane, Wendover	CS3046	52.4	48.6	56.9	76.8	53.0	52.5	48.6	1,A,i,a
351934	Kings Lane, Wendover	CS3046	52.4	48.6	56.9	76.8	53.0	52.5	48.6	1,A,iii,b
355409	Hunts Green, The Lee	CS8051	53.5	53.2	67.6	97.6	53.3	51.8	51.4	3,C,iii,b
355417	Hunts Green, The Lee	CS8051	53.5	53.2	67.6	97.6	53.3	51.8	51.4	3,C,iii,b
355448	Hunts Green, The Lee	CS1202	45.9	39.2	50.8	76.9	45.9	44.9	39.2	1,D,ii,b
355498	The Lee, Great Missenden	CS1202	45.9	39.2	50.8	76.9	45.9	39.9	39.2	1,D,iii,b
355734	Nash Lee Lane, Wendover	CS0075	54.2	45.8	52.9	66.5	54.8	54.5	46.1	1,A,ii,b

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average of night-time $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime L_{pAeq}	Evening/ weekend L_{pAeq}	Night-time L_{pAeq}	
356230	Aylesbury Road, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,iii,b
356878	Small Dean Lane, Wendover	CS1103	49.2	36.8	50.5	64.2	49.7	48.5	36.5	3,A,ii,b
356932	London Road, Wendover	CS2012	74.4	68.9	82.6	88.0	74.1	74.4	69.3	3,A,ii,b
357093	Bacombe Lane, Wendover	CS0034	47.7	40.6	46.6	71.3	48.6	46.1	40.6	1,A,i,a
357199	Nash Lee Lane, Wendover	CS1011	50.2	44.7	57.7	71.3	50.8	50.5	45.0	3,A,i,a
357521	Ellesborough Road, Wendover	CS2010	50.8	44.3	75.0	90.1	50.8	50.4	43.4	3,BC,ii,b
357547	Ellesborough Road, Wendover	CS2010	53.6	47.1	75.0	90.1	53.6	53.2	46.2	3,BC,ii,b
357601	Ellesborough Road, Wendover	CS2053	60.4	53.3	75.4	90.5	61.1	59.7	52.6	3,C,ii,b
357663	Ellesborough Road, Wendover	CS2005	48.7	42.9	52.6	66.4	49.5	48.5	41.8	1,A,ii,b
357730	Ellesborough Road, Wendover	CS2005	48.7	42.9	52.6	66.4	49.5	48.5	41.8	1,A,ii,b
357877	Nash Lee End, Wendover	CS0075	54.2	45.8	52.9	66.5	54.8	54.5	46.1	1,A,ii,b
357950	Nash Lee End, Wendover	CS0086	56.1	50.5	60.4	76.5	56.5	54.9	49.5	1,A,ii,b
357971	Nash Lee Lane, Wendover	CS0086	56.1	50.5	60.4	76.5	56.5	54.9	49.5	1,A,i,a
358410	Wendover Road, Stoke Mandeville	CS2064	53.5	47.3	51.8	80.2	54.0	51.4	45.7	1,A,iii,b

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			Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average of night-time $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime L_{pAeq}	Evening/ weekend L_{pAeq}	Night-time L_{pAeq}	
358677	Wendover Road, Stoke Mandeville	CS2064	53.5	47.3	51.8	80.2	54.0	51.4	45.7	1,A,iii,b
358776	Nash Lee End, Wendover	CS2064	53.5	47.3	51.8	80.2	54.0	51.4	45.7	1,A,ii,b
358870	Little London, Wendover	CS1103	49.2	36.8	50.5	64.2	49.7	48.5	36.5	3,A,ii,b
359140	Small Dean Lane, Wendover	CS1103	49.2	36.8	50.5	64.2	49.7	48.5	36.5	3,A,i,a
359159	Small Dean Lane, Wendover	CS1103	49.2	36.8	50.5	64.2	49.7	48.5	36.5	3,A,i,a
359175	Bacombe Lane, Wendover	CS0034	47.7	40.6	46.6	71.3	48.6	46.1	40.6	1,A,ii,b
359188	Bacombe Lane, Wendover	CS0034	47.7	40.6	46.6	71.3	48.6	46.1	40.6	1,A,ii,b
359264	London Road, Wendover	CS2007	48.6	41.9	49.2	62.9	49.1	47.9	41.7	1,A,ii,b
359284	London Road, Wendover	CS2007	48.6	41.9	49.2	62.9	49.1	47.9	41.7	1,A,i,a
359341	Bacombe Lane, Wendover	CS0107	49.3	46.9	51.0	72.9	49.5	51.5	46.4	1,A,i,a
359368	Bacombe Lane, Wendover	CS0107	49.3	46.9	51.0	72.9	49.5	51.5	46.4	1,A,ii,b
359406	Bacombe Lane, Wendover	CS0020	52.4	44.5	40.9	53.1	53.3	47.8	44.5	1,C,ii,b
359465	Ellesborough Road, Wendover	CS5126	52.4	46.4	55.0	61.9	53.0	50.3	44.9	1,A,i,a
359523	Ellesborough Road, Wendover	CS2056	49.9	42.7	53.9	69.0	50.6	49.2	42.1	1,A,i,a
359540	Ellesborough Road,	CS2056	51.2	44.0	53.9	69.0	51.9	50.5	43.4	1,C,ii,b

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			For operational sound assessment				For construction sound assessment			
			Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average of night-time $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime L_{pAeq}	Evening/ weekend L_{pAeq}	Night-time L_{pAeq}	
	Wendover									
359570	Ellesborough Road, Wendover	CS0022	57.7	51.5	60.3	73.9	58.3	52.1	50.0	1,A,ii,b
359628	Ellesborough Road, Wendover	CS0022	57.7	51.5	60.3	73.9	58.3	52.1	50.0	1,A,i,a
359821	Forest Close, Wendover	CS2058	62.1	50.9	59.3	71.6	60.7	64.8	50.9	1,A,ii,b
359991	Coombe Avenue, Wendover	CS2058	62.1	50.9	59.3	71.6	60.7	64.8	50.9	1,A,ii,b
360117	Thornton Crescent, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,ii,b
360282	Witchell, Wendover	CS6013	51.5	49.4	55.6	76.1	51.8	52.8	49.5	1,A,iii,b
360527	High Street, Wendover	CS6013	51.5	49.4	55.6	76.1	51.8	52.8	49.5	1,A,iii,b
361026	Dobbins Lane, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,iii,b
361089	Vinetrees, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,iii,b
361283	Tring Road, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,iii,b
361353	Little Hampden Close, Wendover	CS2058	62.1	50.9	59.3	71.6	60.7	64.8	50.9	1,A,ii,b
361567	South Street, Wendover	CS6013	51.5	49.4	55.6	76.1	51.8	52.8	49.5	1,A,iii,b
361934	Dobbins Lane, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,iii,b
362092	Dobbins Lane, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,iii,b

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average of night-time $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime L_{pAeq}	Evening/ weekend L_{pAeq}	Night-time L_{pAeq}	
362169	Chiltern Road, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,ii,b
362513	Dobbins Lane, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,ii,b
362638	Thornton Crescent, Wendover	CS2031	59.0	52.9	62.5	77.0	59.6	57.5	52.8	1,A,i,a
362785	Bridleways, Wendover	CS5116	50.4	44.5	53.4	68.3	50.6	49.0	44.1	1,A,i,a
362860	Dobbins Lane, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,ii,b
363376	Nightingale Road, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,ii,b
363661	Dobbins Lane, Wendover	CS2065	49.5	40.6	48.1	61.6	49.8	43.3	38.1	1,A,ii,b
364087	Orchard Close, Wendover	CS2065	49.5	40.6	48.1	61.6	49.8	43.3	38.1	1,A,ii,b
364294	The Cedars, Wendover	CS2065	49.5	40.6	48.1	61.6	49.8	43.3	38.1	1,A,i,a
364751	Haglis Drive, Wendover	CS2065	49.5	40.6	48.1	61.6	49.8	43.3	38.1	1,A,ii,b
365001	Lionel Avenue, Wendover	CS0026	46.4	44.6	51.4	70.2	46.8	44.6	44.2	1,A,ii,b
365130	Aylesbury Road, Wendover	CS2100	50.1	42.8	75.2	79.2	50.6	47.6	42.8	4,BC,iii,b
365216	Aylesbury Road, Wendover	CS2100	50.1	42.8	75.2	79.2	50.6	47.6	42.8	4,BC,iii,b
365280	Aylesbury Road, Wendover	CS0026	46.4	44.6	51.4	70.2	46.8	44.6	44.2	1,A,ii,b
365348	Aylesbury Road, Wendover	CS2100	66.1	58.9	75.2	79.2	66.6	63.6	58.8	4,C,ii,b
365756	Bryants Acre, Wendover	CS2100	66.1	58.9	75.2	79.2	66.6	63.6	58.8	4,C,iii,b
366563	Lionel Avenue, Wendover	CS0026	46.4	44.6	51.4	70.2	46.8	44.6	44.2	1,A,iii,b

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366705	Lionel Avenue, Wendover	CS0026	46.4	44.6	51.4	70.2	46.8	44.6	44.2	1,A,ii,b
366745	Aylesbury Road, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,iii,b
366911	Liffre Drive, Wendover	CS2100	63.1	55.9	75.2	79.2	63.6	60.6	55.8	4,C,iii,b
367404	Aylesbury Road, Wendover	CS2100	50.5	43.3	75.2	79.2	51.0	48.0	43.2	4,BC,ii,b
368607	London Road, Wendover	CS2012	74.4	68.9	82.6	88.0	74.1	74.4	69.3	3,A,ii,b
368658	London Road, Wendover	CS2012	74.4	68.9	82.6	88.0	74.1	74.4	69.3	3,A,ii,b
368702	London Road, Wendover	CS2012	74.4	68.9	82.6	88.0	74.1	74.4	69.3	3,A,ii,b
368726	London Road, Wendover	CS5103	53.5	45.6	54.3	68.3	53.9	52.7	45.6	1,A,ii,b
368776	Rocky Lane, Wendover	CS5103	53.5	45.6	54.3	68.3	53.9	52.7	45.6	1,A,ii,b
368781	Rocky Lane, Wendover	CS5103	53.5	45.6	54.3	68.3	53.9	52.7	45.6	1,A,ii,b
368819	London Road, Wendover	CS2012	74.4	68.9	82.6	88.0	74.1	74.4	69.3	3,A,ii,b
368834	Rocky Lane, Wendover	CS2008	49.1	39.9	47.6	58.5	49.9	46.9	39.7	1,A,i,a
368846	London Road, Wendover	CS5103	53.5	45.6	54.3	68.3	53.9	52.7	45.6	1,A,ii,b
368919	London Road, Wendover	CS1102	45.1	34.6	47.1	65.1	46.2	39.5	34.5	3,A,ii,b
369011	Hale Lane, Wendover	CS2057	47.2	38.5	46.1	64.1	47.8	45.7	37.5	1,A,ii,b
369123	Hale Lane, Wendover	CS2057	47.2	38.5	46.1	64.1	47.8	45.7	37.5	1,A,iii,b
369223	Church Lane, Wendover	CS1053	55.0	49.4	55.6	81.1	55.6	57.6	52.6	3,C,iii,b
369288	Hale Road, Wendover	CS2057	47.2	38.5	46.1	64.1	47.8	45.7	37.5	1,A,i,a

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369370	Hale Road, Wendover	CS2057	47.2	38.5	46.1	64.1	47.8	45.7	37.5	1,A,ii,b
369461	Heron Path, Wendover	CS6013	51.5	49.4	55.6	76.1	51.8	52.8	49.5	1,A,iii,b
369725	Honey Banks, Wendover	CS6013	51.5	49.4	55.6	76.1	51.8	52.8	49.5	1,A,iii,b
369820	Hale Road, Wendover	CS6013	51.5	49.4	55.6	76.1	51.8	52.8	49.5	1,A,iii,b
369935	Hale Road, Wendover	CS2057	47.2	38.5	46.1	64.1	47.8	45.7	37.5	1,A,iii,b
370028	Hazeldene, Wendover	CS6013	51.5	49.4	55.6	76.1	51.8	52.8	49.5	1,A,ii,b
370197	Church Lane, Wendover	CS1053	55.0	49.4	55.6	81.1	55.6	57.6	52.6	3,C,iii,b
370218	Hale Road, Wendover	CS2057	47.2	38.5	46.1	64.1	47.8	45.7	37.5	1,A,ii,b
370600	Hampden Road, Wendover	CS6013	51.5	49.4	55.6	76.1	51.8	52.8	49.5	1,A,iii,b
371603	The Poplars, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,iii,b
371673	Jusons Glebe, Wendover	CS2101	52.6	43.7	55.3	68.8	52.9	46.4	41.2	3,A,iii,b
372731	Rocky Lane, Wendover	CS8056	47.4	45.5	51.3	72.9	47.8	47.3	45.8	1,A,iii,b
372742	Rocky Lane, Wendover	CS0038	48.8	43.5	51.6	71.1	49.3	49.3	44.2	1,A,ii,b
372781	Rocky Lane, Wendover	CS0038	48.8	43.5	51.6	71.1	49.3	49.3	44.2	1,A,ii,b
372817	Rocky Lane, Wendover	CS8056	47.4	45.5	51.3	72.9	47.8	47.3	45.8	1,A,i,a
372897	Kings Ash, Great Missenden	CS2011	53.2	42.4	53.4	64.4	54.0	50.9	42.1	3,A,ii,b
372916	Kings Ash, Great Missenden	CS2011	53.2	42.4	53.4	64.4	54.0	50.9	42.1	3,A,ii,b

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average of night-time $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime L_{pAeq}	Evening/ weekend L_{pAeq}	Night-time L_{pAeq}	
372950	Chesham Lane, The Lee	CS2011	53.2	42.4	53.4	64.4	54.0	50.9	42.1	3,A,ii,b
372983	Kings Ash, Great Missenden	CS2011	53.2	42.4	53.4	64.4	54.0	50.9	42.1	3,A,ii,b
373067	Kings Ash, Great Missenden	CS2011	53.2	42.4	53.4	64.4	54.0	50.9	42.1	3,A,ii,b
373102	Kings Ash, Great Missenden	CS8056	47.4	45.5	51.3	72.9	47.8	47.3	45.8	1,A,iii,b
373141	London Road, Wendover	CS1102	45.1	34.6	47.1	65.1	46.2	39.5	34.5	3,A,ii,b
700300	Kings Lane, Wendover	CS3046	52.4	48.6	56.9	76.8	53.0	52.5	48.6	1,A,ii,b
700301	Wendover Dean, Aylesbury	CS2013	50.8	44.8	54.9	74.8	50.8	51.4	45.0	3,A,ii,b
700305	Rocky Lane, Wendover	CS0038	48.8	43.5	51.6	71.1	49.3	49.3	44.2	1,A,ii,b
700307	Kings Ash, Great Missenden	CS8056	47.4	45.5	51.3	72.9	47.8	47.3	45.8	1,A,iii,b
700309	London Road, Wendover	CS5103	53.5	45.6	54.3	68.3	53.9	52.7	45.6	1,A,ii,b
700312	Hale Road, Wendover	CS2057	47.2	38.5	46.1	64.1	47.8	45.7	37.5	1,A,ii,b
700313	Heron Path, Wendover	CS6013	51.5	49.4	55.6	76.1	51.8	52.8	49.5	1,A,ii,b
700315	South Street, Wendover	CS2058	62.1	50.9	59.3	71.6	60.7	64.8	50.9	1,A,ii,b
700317	Ellesborough Road, Wendover	CS0022	57.7	51.5	60.3	73.9	58.3	52.1	50.0	1,A,ii,b
700319	Bacombe Lane, Wendover	CS0034	47.7	40.6	46.6	71.3	48.6	46.1	40.6	1,A,ii,b

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
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700320	Bacombe Lane, Wendover	CS0020	48.3	40.4	40.9	53.1	49.2	43.7	40.4	1,A,ii,b
700321	Ellesborough Road, Wendover	CS2056	49.9	42.7	53.9	69.0	50.6	49.2	42.1	1,A,ii,b
700323	Ellesborough Road, Wendover	CS2056	49.9	42.7	53.9	69.0	50.6	49.2	42.1	1,A,ii,b
700324	Ellesborough Road, Wendover	CS2056	49.9	42.7	53.9	69.0	50.6	49.2	42.1	1,A,ii,b
700326	Forest Close, Wendover	CS2058	62.1	50.9	59.3	71.6	60.7	64.8	50.9	1,A,ii,b
700327	Bridleways, Wendover	CS5116	50.4	44.5	53.4	68.3	50.6	49.0	44.1	1,A,ii,b
700328	Ellesborough Road, Wendover	CS5126	52.4	46.4	55.0	61.9	53.0	50.3	44.9	1,A,ii,b
700358	Aylesbury Road, Great Missenden	CS3046	52.4	48.6	56.9	76.8	53.0	52.5	48.6	1,A,iii,b
700473	Ellesborough Road, Wendover	CS2053	55.2	48.0	75.4	90.5	55.9	54.5	47.4	3,C,ii,b
709512	Manor Road, Wendover	CS2065	49.5	40.6	48.1	61.6	49.8	43.3	38.1	1,A,ii,b
709513	Wharf Road, Wendover	CS0026	46.4	44.6	51.4	70.2	46.8	44.6	44.2	1,A,ii,b
709514	Wharf Road, Wendover	CS0026	46.4	44.6	51.4	70.2	46.8	44.6	44.2	1,A,ii,b
901001	Coombe Hill, Aylesbury	CS1010	41.6	37.0	41.2	65.9	42.5	40.0	36.8	3,A,ii,b
901002	Nash Lee Road, Ellesborough	CS0087	52.0	41.6	53.3	68.4	52.7	47.9	41.6	1,C,ii,b

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime $L_{pAeq,16hr}$	Night-time $L_{pAeq,8hr}$	Arithmetic average of night-time $L_{pAFmax,5min}$	Highest night-time $L_{pAFmax,5min}$	Daytime L_{pAeq}	Evening/ weekend L_{pAeq}	Night-time L_{pAeq}	
901003	Nash Lee Road, Ellesborough	CS2005	48.7	42.9	52.6	66.4	49.5	48.5	41.8	1,A,ii,b
901004	Ellesborough Road, Wendover	CS2005	48.7	42.9	52.6	66.4	49.5	48.5	41.8	1,A,ii,b
901005	Unnamed Road, Ellesborough	CS2005	48.7	42.9	52.6	66.4	49.5	48.5	41.8	1,A,ii,b
901017	Halton, Aylesbury	CS2005	48.7	42.9	52.6	66.4	49.5	48.5	41.8	1,A,ii,b

Table 2: Data source coding key

Code	Data source type
1	Long-term measurement location
2	Short-term (linked to simultaneous long-term)
3	Short-term (using profile from non-simultaneous long-term)
4	Short-term using standard (National Noise Incidence Study[3] or other) 24hr profile
5	Specific validated prediction
6	Predictions from other sources (Department for Environment, Food and Rural Affairs (Defra) noise maps[4], etc.)
7	Generic levels

Code	Corrections applied
A	Data from above source applied directly
B	Correction applied for screening
C	Correction applied for distance from source
D	Minimum level cut-off applied

Code	Distance from measurement
i	Data applied from a measurement at or very close to the assessment location.
ii	Data applied from a local measurement location at a greater distance but noted to have equivalent acoustic climate.
iii	Data applied from a distant measurement location where sound levels would be expected to be similar.

Code	Uncertainty
a	Data are considered highly representative of the prevailing sound climate.
b	Data are considered representative of the prevailing sound climate, but variations in measured levels indicate that there may be a higher degree of uncertainty than for (a).
c	Data are considered to be an estimate of the sound climate, (e.g. taken from Defra noise maps, etc.).

[3] Building Research Establishment (2002), *National Noise Incidence Study*, 2000/2001.
[4] Defra; Noise Mapping England; http://services.defra.gov.uk/wps/portal/noise/; Accessed: 26 July 2013.

3.3 Future baseline methodology

Construction

3.3.1 The assessment of noise from construction activities assumes a baseline year of 2017. As a conservative assumption, it has been assumed that no change in baseline sound levels will occur between the existing baseline (2012/2013) and the future baseline year of 2017.

3.3.2 Due to the duration of the construction work and as the precise timing of the highest sound levels would be different in each location, using baseline sound levels for 2017 as the start of the construction period, provides a reasonable worst case assessment.

3.3.3 The assessment of construction traffic is based on future baseline traffic flows for 2021, as a year representative of the middle of the construction period.

Operation

3.3.4 There is potential for future baseline sound levels for operation (2026) to change when compared to the existing baseline sound levels (2012) as a result of changes in baseline sound sources.

3.3.5 In the vast majority of cases where change might occur it is expected that baseline sound levels will increase at assessment locations due to increases in vehicle movements on roads. It is therefore considered that the use of the 2012 baseline levels in the operational assessment will result in a worst case assessment of the impact of changes in the future baseline sound levels in the majority of locations.

3.3.6 Therefore for the purposes of this assessment future baseline levels have been assumed to be identical to those identified in Table 1 of this appendix for 2012.

3.3.7 In addition, based on available road traffic information a screening exercise has been undertaken to identify any areas in which a change in baseline sound level might be likely. No reductions in baseline sound level have been identified; however, an increase in baseline noise levels has been predicted at the locations shown in Table 3 due to increased future traffic flows.

Table 3: Future baseline noise levels

Assessment Location	Road	Predicted increase in Basic Noise Level
372731	Rocky Lane	+0.9 dB
372742		
700305		
372781		
368781		
368834		
372817		

Assessment Location	Road	Predicted increase in Basic Noise Level
314652	Nash Lee Lane	+1.1 dB
314704		
314668	Nash Lee Road	+1.1 dB
314738		
357199		

4 References

Building Research Establishment (2002), *National Noise Incidence Study*, 2000/2001.

Defra; Noise Mapping England; http://services.defra.gov.uk/wps/portal/noise/; Accessed: 26 July 2013.